## **Patent Claims**

## 1. Carboxamides of the formula (1)

$$A \xrightarrow{N} \stackrel{M}{\underset{R^1}{\bigcup}} L^2_{\underset{R}{\bigcup}} R$$
 (I)

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stands for hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; formyl, formyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, (C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, (C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, halo-(C<sub>1</sub>-C<sub>3</sub>-alkoxy)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl with 1 to 13 fluorine, chlorine and/or bromine atoms in each case;

 $(C_1-C_8-alkyl)$  carbonyl,  $(C_1-C_8-alkoxy)$  carbonyl,  $(C_1-C_4-alkoxy-C_1-C_4-alkyl)$  carbonyl,  $(C_3-C_8-cycloalkyl)$  carbonyl;  $(C_1-C_6-haloalkyl)$  carbonyl,  $(C_1-C_6-haloalkyl)$  carbonyl,  $(C_3-C_8-alkoxy-C_1-C_4-alkyl)$  carbonyl,  $(C_3-C_8-alkyl)$  carbonyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; or  $-C(=O)C(=O)R^2$ ,  $-CONR^3R^4$  or  $-CH_2NR^5R^6$ ,

R<sup>2</sup> stands for hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>1</sub>-C<sub>6</sub> haloalkoxy, halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case,

R<sup>3</sup> and R<sup>4</sup> stand independently of one another in each case for hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>1</sub>-C<sub>8</sub> haloalkyl, halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case,

R<sup>3</sup> and R<sup>4</sup>, moreover, form a substituted, saturated heterocycle with 5 to 8 ring atoms together with the nitrogen atom to which they are bound, with single or multiple, the same or various substitution by halogen or C<sub>1</sub>-C<sub>4</sub> alkyl, whereby the heterocycle can contain 1 or 2 additional, non-adjacent hetero atoms constituted by oxygen, sulfur or NR<sup>7</sup>,

R<sup>5</sup> and R<sup>6</sup> stand independently of one another for hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>1</sub>-C<sub>8</sub> haloalkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case,

R<sup>5</sup> and R<sup>6</sup>, moreover, form a substituted, saturated heterocycle with 5 to 8 ring atoms together with the nitrogen atom to which they are bound, with single or multiple, the same or various substitution by halogen or C<sub>1</sub>-C<sub>4</sub> alkyl, whereby the heterocycle can contain 1 or 2 additional, non-adjacent hetero atoms constituted by oxygen, sulfur or NR<sup>7</sup>,

R<sup>7</sup> stands for hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl,

M stands in each case for a phenyl, pyridine or pyrimidine, pyridazine or pyrazine ring with a single substitution by R<sup>8</sup> or for a thiazole ring substituted by R<sup>8-A</sup>,

R<sup>8</sup> stands for hydrogen, fluorine, chlorine, methyl, isopropyl, methylthio or trifluoromethyl,

R<sup>8</sup> also stands for methoxy,

R<sup>8-A</sup> stands for hydrogen, methyl, methylthio or trifluoromethyl,

L<sup>1</sup> stands for C<sub>1</sub>-C<sub>10</sub> alkylene (alkanediyl),

Q stands for O, S, SO, SO<sub>2</sub> or NR<sup>9</sup>,

L<sup>2</sup> stands for a direct link, SiR<sup>10</sup>R<sup>11</sup> or CO,

R stands for hydrogen,  $C_1$ - $C_8$  alkyl,  $C_1$ - $C_8$  alkoxy,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkyl,  $C_2$ - $C_8$  alkenyl,  $C_2$ - $C_8$  alkynyl,  $C_1$ - $C_6$  haloalkyl,  $C_2$ - $C_6$  haloalkynyl or  $C_3$ - $C_6$  cycloalkyl,

stands for hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl, C<sub>2</sub>-C<sub>8</sub> alkynyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>2</sub>-C<sub>6</sub> haloalkenyl, C<sub>2</sub>-C<sub>6</sub> haloalkynyl or C<sub>3</sub>-C<sub>6</sub> cycloalkyl,

 $R^{10}$  and  $R^{11}$  stand independently of one another for hydrogen,  $C_1$ - $C_8$  alkyl,  $C_1$ - $C_8$  alkoxy,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -

A stands for the group of the formula (A1)

(A1), in which

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R<sup>12</sup> stands for hydrogen, cyano, halogen, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> haloalkylthio, in each case with 1 to 5 halogen atoms, aminocarbonyl or aminocarbonyl-C<sub>1</sub>-C<sub>4</sub>-alkyl,

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R<sup>13</sup> stands for hydrogen, halogen, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy or C<sub>1</sub>-C<sub>4</sub> alkylthio,

R<sup>14</sup> stands for hydrogen, C-C<sub>4</sub> alkyl, hydroxy-C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>

haloalkyl,  $C_1$ - $C_4$ -haloalkylthio- $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -haloalkoxy- $C_1$ - $C_4$ -alkyl in each case with 1 to 5 halogen atoms, or phenyl,

or

A stands for the group of the formula (A2)

 $R^{15}$  and  $R^{16}$  stand independently of one another for hydrogen, halogen,  $C_1$ - $C_4$  alkyl or  $C_1$ - $C_4$  haloalkyl with 1 to 5 halogen atoms,

R<sup>17</sup> stands for halogen, cyano or C<sub>1</sub>-C<sub>4</sub> alkyl, or C<sub>1</sub>-C<sub>4</sub> haloalkyl or C<sub>1</sub>-C<sub>4</sub> haloalkoxy with 1 to 5 halogen atoms in each case,

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A stands for the group of the formula (A3)

$$R^{19}$$
 (A3), in which

R<sup>18</sup> and R<sup>19</sup> stand independently of one another for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

R<sup>20</sup> stands for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A4)

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R<sup>21</sup> stands or hydrogen, halogen, hydroxy, cyano, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> haloalkylthio in each case with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A5)

$$R^{23}$$
  $N$   $R^{22}$  (A5), in which

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R<sup>22</sup> stands for halogen, hydroxy, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio or C<sub>1</sub>-C<sub>4</sub> haloalkoxy in each case with 1 to 5 halogen atoms,

R<sup>23</sup> stands for hydrogen, halogen, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkoxy in each case with 1 to 5 halogen atoms, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl or C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl,

or

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A stands for the group of the formula (A6)

$$R^{25}$$
  $Q^{1}$   $Q^{25}$   $Q^{25}$   $Q^{25}$   $Q^{25}$ 

(A6), in which

R<sup>24</sup> stands for C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

 $R^{25}$  stands for  $C_1$ - $C_4$  alkyl,

Q<sup>1</sup> stands for S (sulfur), SO, SO<sub>2</sub> or CH<sub>2</sub>,

p stands for 0, 1 or 2, whereby R<sup>25</sup> stands for identical or various groups if p is 2,

or

A stands for the group of the formula (A7)

(A7), in which

R<sup>26</sup> stands for C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A8)

(A8), in which

R<sup>27</sup> stands for C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

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A stands for the group of the formula (A9)

(A9) in which

R<sup>28</sup> and R<sup>29</sup> stand independently of one another for hydrogen, halogen, amino, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

R<sup>30</sup> stands for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A10)

(A10), in which

R<sup>31</sup> and R<sup>32</sup> stand independently of one another for hydrogen, halogen, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

R<sup>33</sup> stands for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

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A stands for the group of the formula (A11)

(A11), in which

R<sup>34</sup> stands for hydrogen, halogen, amino, C<sub>1</sub>-C<sub>4</sub> alkylamino, di-(C<sub>1</sub>-C<sub>4</sub> alkyl)amino, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

 $R^{35}$  stands for halogen,  $C_1$ - $C_4$  alkyl or  $C_1$ - $C_4$  haloalkyl with 1 to 5 halogen atoms,

or A

stands for the group of the formula (A12)

(A12), in which

R<sup>36</sup> stands for hydrogen, halogen, amino, C<sub>1</sub>-C<sub>4</sub> alkylamino, di-(C<sub>1</sub>-C<sub>4</sub> alkyl)amino, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

R<sup>37</sup> stands for halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A13)

(A13), in which

R<sup>38</sup> stands for halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A14)

(A14), in which

 $R^{39}$ stands for hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl,

 $R^{40}$ stands for halogen or C<sub>1</sub>-C<sub>4</sub> alkyl,

or Α .

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stands for the group of the formula (A15)

(A15), in which

 $R^{41}$ stands for C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

A stands for the group of the formula (A16)

(A16), in which

 $R^{42}$ stands for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

Α stands for the group of the formula (A17)

(A17), in which

 $R^{43}$ stands for halogen, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  haloalkylthio or  $C_1$ - $C_4$  haloalkoxy with 1 to 5 halogen atoms in each case,

Α

stands for the group of the formula (A18)

(A18), in which

 $R^{44}$ stands for hydrogen, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub> alkyl, hydroxy-C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, di(C<sub>1</sub>-C<sub>4</sub> alkyl)aminosulfonyl, C<sub>1</sub>-C<sub>6</sub> alkylcarbonyl or in each case possibly substituted phenylsulfonyl or benzoyl,

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$R^{45}$	stands for hydrogen, halogen, C <sub>1</sub> -C <sub>4</sub> alkyl or C <sub>1</sub> -C <sub>4</sub> haloalkyl with 1 to 5
	halogen atoms,
$R^{46}$	stands for hydrogen, halogen, cyano, C <sub>1</sub> -C <sub>4</sub> alkyl or C <sub>1</sub> -C <sub>4</sub> haloalkyl with 1

to 5 halogen atoms,

R<sup>47</sup> stands for hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl with 1 to 5 halogen atoms,

or

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A stands for the group of the formula (A19)

(A19), in which

R<sup>48</sup> stands for C<sub>1</sub>-C<sub>4</sub> alkyl.

- Carboxamides of the formula (I) according to Claim I, in which R does not stand for alkoxy, if L<sup>2</sup> stands for a direct link.
- 15 3. Carboxamides of the formula (I) according to Claim 1 or 2, in which

stands for hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl; C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; formyl, formyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, (C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, (C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, halo-(C<sub>1</sub>-C<sub>3</sub>-alkoxy)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl with 1 to 13 fluorine, chlorine and/or bromine atoms in each case;

(C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, (C<sub>1</sub>-C<sub>4</sub> alkoxy)carbonyl, (C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl, (C<sub>3</sub>-C<sub>6</sub> cycloalkyl)carbonyl; (C<sub>1</sub>-C<sub>4</sub> haloalkyl)carbonyl, (C<sub>1</sub>-C<sub>4</sub> haloalkoxy)carbonyl. (halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl)carbonyl, (C<sub>3</sub>-C<sub>6</sub> halocycloalkyl)carbonyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; or -C(=O)C(=O)R<sup>2</sup>, -CONR<sup>3</sup>R<sup>4</sup> or -CH<sub>2</sub>NR<sup>5</sup>R<sup>6</sup>,

R<sup>2</sup> stands for hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl; C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case,

R<sup>3</sup> and R<sup>4</sup> stand independently of one another in each case for hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl; C<sub>1</sub>-C<sub>4</sub> haloalkyl, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case.

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R<sup>3</sup> and R<sup>4</sup>, moreover, form a substituted, saturated heterocycle with 5 to 8 ring atoms together with the nitrogen atom to which they are bound, with single or multiple, the same or various substitution by halogen or C<sub>1</sub>-C<sub>4</sub> alkyl, whereby the heterocycle can contain 1 or 2 additional, non-adjacent hetero atoms constituted by oxygen, sulfur or NR<sup>7</sup>,

R<sup>5</sup> and R<sup>6</sup> stand independently of one another for hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl; C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case,

R<sup>5</sup> and R<sup>6</sup>, moreover, form a substituted, saturated heterocycle with 5 to 8 ring atoms together with the nitrogen atom to which they are bound, with single or multiple, the same or various substitution by halogen or C<sub>1</sub>-C<sub>4</sub> alkyl, whereby the heterocycle can contain 1 or 2 additional, non-adjacent hetero atoms constituted by oxygen, sulfur or NR<sup>7</sup>,

R<sup>7</sup> stands for hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl,

15 M stands for one of the following cyclics

$$R^{8}$$
 $R^{8}$ 
 $R^{8$ 

whereby the bond marked with an asterisk is linked to the amide,

20 R<sup>8</sup> stands for hydrogen, fluorine, chlorine, methyl, isopropyl, methylthio or trifluoromethyl,

R<sup>8</sup> also stands for methoxy,

R<sup>8-A</sup> stands for hydrogen, methyl, methylthio or trifluoromethyl,

L1 stands for C<sub>1</sub>-C<sub>10</sub> alkylene (alkanediyl),

Q stands for O, S, SO, SO<sub>2</sub> or NR<sup>9</sup>,

L<sup>2</sup> stands for a direct link, SiR<sup>10</sup>R<sup>11</sup> or CO,

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R stands for hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>1</sub>-C<sub>3</sub>-alkyl or C<sub>1</sub>-C<sub>4</sub> haloalkyl or C<sub>3</sub>-C<sub>6</sub> cycloalkyl,

R<sup>9</sup> stands for hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>1</sub>-C<sub>3</sub>-alkylthio-C<sub>1</sub>-C<sub>3</sub>-alkyl or C<sub>3</sub>-C<sub>6</sub> cycloalkyl,

R<sup>10</sup> and R<sup>11</sup> stand independently of one another preferably for C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl or C<sub>1</sub>-C<sub>3</sub>-alkylthio-C<sub>1</sub>-C<sub>3</sub>-alkyl,

A stands for the group of the formula (A1)

$$R^{12}$$
 $N$ 
 $R^{13}$ 
 $R^{14}$ 
(A1), in which

R<sup>12</sup> stands for hydrogen, cyano, fluorine, chlorine, bromine, iodine, methyl, ethyl, isopropyl, methoxy, ethoxy, methylthio, ethylthio, cyclopropyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl, C<sub>1</sub>-C<sub>2</sub> haloalkoxy in each case with 1 to 5 fluorine, chlorine and/or bromine atoms, trifluoromethylthio, difluoromethylthio, aminocarbonyl, aminocarbonylmethyl or aminocarbonylethyl,

R<sup>13</sup> stands for hydrogen, fluorine, chlorine, bromine, iodine, methyl, ethyl, methoxy, ethoxy, methylthio or ethylthio,

R<sup>14</sup> stands for hydrogen, methyl, ethyl, n-propyl, isopropyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms, hydroxymethyl, hydroxyethyl, cyclopropyl, cyclopentyl, cyclohexyl or phenyl,

or A

stands for the group of the formula (A2)

R<sup>15</sup> and R<sup>16</sup> stand independently of one another for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>17</sup> stands for fluorine, chlorine, bromine, cyano, methyl, ethyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl or C<sub>1</sub>-C<sub>2</sub> haloalkoxy in each case with 1 to 5 fluorine, chlorine and/or bromine atoms.

ór

A stands for the group of the formula (A3)

$$R^{19}$$
 (A3), in which

R<sup>18</sup> and R<sup>19</sup> stand independently of one another for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>20</sup> stands for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

A stands for the group of the formula (A4)

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R<sup>21</sup> stands for hydrogen, fluorine, chlorine, bromine, iodine, hydroxy, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl or C<sub>1</sub>-C<sub>2</sub> haloalkylthio in each case with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

A stands for the group of the formula (A5)

$$R^{23}$$
  $N$   $R^{22}$  (A5), in which

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R<sup>22</sup> stands for fluorine, chlorine, bromine, iodine, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl, methoxy, ethoxy, methylthio, ethylthio, difluoromethylthio, trifluoromethylthio, C<sub>1</sub>-C<sub>2</sub> haloalkyl or C<sub>1</sub>-C<sub>2</sub> haloalkoxy in each case with 1 to 5 fluorine, chlorine and/or bromine atoms,

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R<sup>23</sup> stands for hydrogen, fluorine, chlorine, bromine, iodine, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, methoxy, ethoxy, methylthio, ethylthio, C<sub>1</sub>-C<sub>2</sub> haloalkyl or C<sub>1</sub>-C<sub>2</sub> haloalkoxy in each case with 1 to 5 fluorine, chlorine and/or bromine atoms, C<sub>1</sub>-C<sub>2</sub> alkylsulfinyl or C<sub>1</sub>-C<sub>2</sub> alkylsulfonyl,

or A

stands for the group of the formula (A6)

$$R^{25}$$
 $Q^1$ 
 $Q^2$ 
 $Q^2$ 
(A6), in which

R<sup>24</sup> stands for methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>25</sup> stands for methyl or ethyl,

Q1 stands for S (sulfur), SO<sub>2</sub> or CH<sub>2</sub>,

p stands for 0 or 1,

or

A stands for the group of the formula (A7)

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(A7), in which

R<sup>26</sup> stands for methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

A stands for the group of the formula (A8)

(A8), in which

R<sup>27</sup> stands for methyl, ethyl, trifluoromethyl, difluoromethyl, difluorochloromethyl or trichloromethyl,

or

A stands for the group of the formula (A9)

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A9), in which

R<sup>28</sup> and R<sup>29</sup> stand independently of one another for hydrogen, fluorine, chlorine, bromine, amino, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>30</sup> stands for hydrogen, fluorine, chlorine, bromine, iodine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

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or . A

stands for the group of the formula (A10)

(A10), in which

R<sup>31</sup> and R<sup>32</sup> stand independently of one another for hydrogen, fluorine, chlorine, bromine, amino, nitro, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>33</sup> stands for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

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or

A stands for the group of the formula (A11)

(All), in which

stands for hydrogen, fluorine, chlorine, bromine, amino, C<sub>1</sub>-C<sub>4</sub> alkylamino, di(C<sub>1</sub>-C<sub>4</sub> alkyl)amino, cyano, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>35</sup> stands for fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

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A stands for the group of the formula (A12)

(A12), in which

R<sup>36</sup> stands for hydrogen, fluorine, chlorine, bromine, amino, C<sub>1</sub>-C<sub>4</sub> alkylamino, di(C<sub>1</sub>-C<sub>4</sub> alkyl)amino, cyano, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>37</sup> stands for fluorine, chlorine, bromine, methyl; ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

A stands for the group of the formula (A13)

(A13), in which

R<sup>38</sup> stands for fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or A

stands for the group of the formula (A14)

(A14), in which

R<sup>39</sup> stands for hydrogen, methyl or ethyl,

R<sup>40</sup> stands for fluorine, chlorine, bromine, methyl or ethyl,

or

A stands for the group of the formula (A15)

(A15), in which

R<sup>41</sup> stands for methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or A

stands for the group of the formula (A16)

(A16), in which

R<sup>42</sup> stands for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

or

A stands for the group of the formula (A17)

(A17), in which

R<sup>43</sup> stands for fluorine, chlorine, bromine, iodine, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl, methoxy, ethoxy, methylthio, ethylthio, difluoromethylthio, trifluoromethylthio, C<sub>1</sub>-C<sub>2</sub> haloalkyl or C<sub>1</sub>-C<sub>2</sub> haloalkoxy in each case with 1 to 5 fluorine, chlorine and/or bromine atoms,

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or

A stands for the group of the formula (A18)

(A18), in which

stands for hydrogen, methyl, ethyl, C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, hydroxymethyl, hydroxyethyl, methylsulfonyl or dimethylaminosulfonyl,

R<sup>45</sup> stands for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>46</sup> stands for hydrogen, fluorine, chlorine, bromine, iodine, cyano, methyl, ethyl, isopropyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

R<sup>47</sup> stands for hydrogen, fluorine, chlorine, bromine, methyl, ethyl or C<sub>1</sub>-C<sub>2</sub> haloalkyl with 1 to 5 fluorine, chlorine and/or bromine atoms,

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or

A stands for the group of the formula (A19)

(A19), in which

R<sup>48</sup> stands for methyl, ethyl, n-propyl or isopropyl.

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- 4. A process for synthesizing the carboxamides of the formula (I) according to Claim 1, characterized in that
  - (a) carboxylic acid derivatives the formula (II)

$$A = X^{1}$$
 (II)

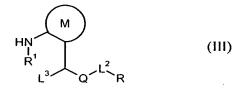
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in which

A has the meanings specified above and

X<sup>1</sup> stands for halogen or hydroxy,

are reacted with aniline derivatives of the formula (III)



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in which

R<sup>1</sup>, M, Q, L<sup>2</sup> and R have the meanings specified above,

 $L^3$  stands for hydrogen or  $C_1$ - $C_9$  alkyl,

possibly in the presence of a catalyst, possibly in the presence a condensation agent, possibly in the presence of an acid binder and possibly in the presence of a diluent,

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or

(b) carboxamides of the formula (IV)

$$A \xrightarrow{N} H \xrightarrow{L_{Q}} H$$
 (IV)

in which M, L<sup>1</sup>, Q and A have the meanings specified above are reacted with a compound of the formula (V),

$$Y^{L^2}R$$
 (V)

in which

L<sup>2</sup> and R have the meanings specified above and

Y stands for halogen, triflate (trifluoromethylsulfonyl), mesylate (methylsulfonyl) or tosylate (4-methylphenylsulfonyl),

in the presence of a base and in the presence of a dilution medium,

or

(c) carboxamides of the formula (1-a)

$$A \xrightarrow{O} N \xrightarrow{M} \bigcup_{L^{1} Q \xrightarrow{L^{2}} R} (I-a)$$

in which M,  $L^1$ , Q,  $L^2$ , R and A have the meanings specified above, are reacted with halides of the formula (VI)

$$R^{1-A} - X^2$$
 (VI)

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in which

X<sup>2</sup> stands for chlorine, bromine or iodine,

 $R^{1-A}$ stands for C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub>alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl;  $C_1$ - $C_6$  haloalkyl,  $C_1$ - $C_4$ haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub> halocycloalkyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; formyl, formyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, (C<sub>1</sub>-C<sub>3</sub>alkyl)carbonyl- $C_1$ - $C_3$ -alkyl,  $(C_1$ - $C_3$ -alkoxy)carbonyl- $C_1$ - $C_3$ -alkyl; (C<sub>1</sub>-C<sub>3</sub> alkyl)carbonyl-C<sub>1</sub>-C<sub>3</sub>-alkyl, halo-(C<sub>1</sub>-C<sub>3</sub> alkoxy)carbonyl-C<sub>1</sub>-C<sub>3</sub>alkyl with 1 to 13 fluorine, chlorine and/or bromine atoms in each case;  $(C_1-C_8 \text{ alkyl})$ carbonyl,  $(C_1-C_8 \text{ alkoxy})$ carbonyl,  $(C_1-C_4-\text{alkoxy}-C_1-C_4-\text{alkoxy})$ alkyl)carbonyl, (C<sub>3</sub>-C<sub>8</sub> cycloalkyl)carbonyl; (C<sub>1</sub>-C<sub>6</sub> haloalkyl)carbonyl, (C<sub>1</sub>-C<sub>6</sub> haloalkoxy)carbonyl, (halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl)carbonyl, (C<sub>3</sub>-C<sub>8</sub> halocycloalkyl)carbonyl with 1 to 9 fluorine, chlorine and/or bromine atoms in each case; or -C(=O)C(=O)R<sup>2</sup>, -CONR<sup>3</sup>R<sup>4</sup> or -CH<sub>2</sub>NR<sup>5</sup>R<sup>6</sup>, whereby R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> have the meanings specified above,

in the presence of a base and in the presence of a dilution medium.

5. Media for combating undesirable microorganisms, characterized by containing at least one carboxamide of the formula (I) according to Claim 1 together with extenders and/or surface-active materials.

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- 6. The use of carboxamides of the formula (I) according to Claim I to combat undesired microorganisms.
- 7. Processes for combating undesired microorganisms, characterized in that carboxamides of the formula (I) are applied microorganisms and/or their environment in accordance with Claim 1.
  - 8. Processes for synthesizing materials to combat undesired microorganisms, characterized in that carboxamides of the formula (I) are mixed with extenders and/or surface-active materials according to Claim 1.
  - 9. Aniline derivatives of the formula (III)

in which

15 R<sup>1</sup>, M, Q, L<sup>2</sup> and R have the meanings specified in Claim 1 and L<sup>3</sup> stands for hydrogen or C<sub>1</sub>-C<sub>9</sub> alkyl.

## **Carboxamides**

Summary

New carboxamides of the formula (I)

$$A \xrightarrow{N} \underbrace{M}_{R^1} \underbrace{L^1}_{Q} \underbrace{L^2}_{R}$$
 (I)

in which

R<sup>1</sup>, M, L<sup>1</sup>, Q, L<sup>2</sup>, R and A have the meanings specified in the description,

several processes for synthesizing these materials and their use in combating undesirable microorganisms, as well as new intermediate products and their synthesis.